

Message #67: September 2002

Welcome to TechDirect. Since the August 1 message, TechDirect gained 297 new subscribers for a total of 14,643. If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing to TechDirect may do so on CLU-IN at <http://clu-in.org/techdirect> . All previous issues of TechDirect are archived there.

Mention of non-EPA documents or presentations does not constitute a U.S. EPA endorsement of their contents, only an acknowledgment that they exist and may be relevant to the TechDirect audience.

Upcoming Live Internet Seminars

ITRC Advanced Techniques on Installation of Iron Based Permeable Reactive Barriers and Non-Iron Based Barrier Treatment Material - September 17. This ITRC seminar uses case studies to describe long-term performance of iron-based systems and details how to design them according to the heterogeneities of the subsurface. New construction techniques for excavation and wall emplacement have improved dramatically and the attention to barrier construction is as critical as is performance monitoring. It also describes non-iron barrier systems, the material most commonly used and the mechanisms encouraging a reduction in contaminant concentrations within the systems. For more information and to register, see <http://www.itrcweb.org> Or <http://clu-in.org/studio> .

ITRC Passive Diffusion Bag Samplers - September 24. This seminar will present the technical and regulatory considerations associated with deployment of diffusion samplers, and summarize major points of the recently issued USGS document, Users Guide For Polyethylene-Based Passive Diffusion Bag Samplers To Obtain Volatile Organic Compound Concentrations In Wells. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/studio> .

Modernizing Site Cleanup: Managing Decision Uncertainties Using the Triad Approach - September 26. This seminar is sponsored by the U.S. Army Corps of Engineers and U.S. EPA Technology Innovation Office. It is designed to introduce state and federal project managers and technical staff, environmental consultants, site owners, and community stakeholders to the importance of using systematic planning to implement dynamic data

collection strategies using innovative field measurement technologies. For more information and to register, see <http://clu-in.org/studio>

New Documents and Website Updates

Obstacles to Complete PCE Degradation During Reductive Dechlorination. This paper was produced by members of the State Coalition for the Remediation of Drycleaners. It describes a problem -- the accumulation of cis-1,2-DCE - that appears relatively common at sites undergoing reductive dechlorination enhanced by the addition of hydrogen releasing compound, molasses, sodium lactate, vegetable oil, or some other organic carbon source. The paper was presented at the Battelle conference in Spring 2002 and is based on data from a drycleaner site in Florida. It provides lessons that can be used to develop more rigorous site qualification procedures and design criteria for the application of accelerated reductive dechlorination at other sites (June 2002, 7 pages). View or download at http://www.drycleancoalition.org/download/pce_degradation.pdf .

Innovative Technology Evaluation Report: EarthSoft, Inc. Environmental Quality Information System - EquISR (EPA 540-R-02-503). This report was published by the Superfund Innovative Technology Evaluation (SITE) program. As a part of this evaluation, a demonstration of the technology was conducted by the SITE Program at Science Applications International Corporation (SAIC) offices in Cincinnati and Columbus, Ohio and McLean, Virginia. The purpose of the demonstration was to determine whether the software performs the functions claimed by EarthSoft, Inc. and to assess the accuracy of the EQUIS output. In addition, demonstration results and other sources of cost information were used to develop detailed cost estimates for full-scale application of the technology (May 2002, 79 pages). View or download at <http://www.epa.gov/ORD/SITE/reports/540R02503.pdf> .

Guidance for Optimizing Ground Water Response Actions at Department of Energy Sites. This report was produced by the U.S. Department of Energy. The purpose of this guidance is to provide Environmental Restoration (ER) project managers and decision makers with an overview of key considerations in designing and implementing optimal ground water response strategies. The guidance outlines the typical phases of a ground water response and discusses important information needs to optimize technology applications for each phase. In those situations where restoration is determined not to be practicable, the guide outlines how the U.S. EPA programmatic expectations for ground water can be used to

establish measures that are necessary and appropriate to minimize risks to human health and the environment (May 2002, 26 pages). View or download at http://www.em.doe.gov/er/May2002gwguide1_508.pdf .

Critical Issues for Contaminated Sediment Management (MESO-02-TM-01). The Office of Naval Research (ONR) funded a project to identify problems, remediation approaches, technology gaps and needs relative to managing contaminated sediments in an integrated, cost-effective way. The goal was to examine what aspects of contaminated sediment assessment and management were successful, and what barriers existed for streamlining contaminated sediment management (March 2002, 88 pages). View or download at <http://meso.spawar.navy.mil/docs/MESO-02-TM-01.pdf> .

Fracturing Technologies to Enhance Site Remediation (TE-02-02). This document, produced by the Ground Water Remediation Technologies Analysis Center (GWRTAC), covers the three general categories of fracturing technologies, including pneumatic, hydraulic, and blast fracturing, for enhancement of site remediation. The use of fracturing to introduce various liquid and granular supplements that are beneficial to remediation is discussed, as well as the use of fracturing in improving remediation performance by increasing effective permeability. This report is companion to the GWRTAC status report on fracturing technologies, and also further analyzes case studies originally presented in the status report. In addition to providing descriptions of the three fracturing technologies, this document discusses their benefits and restrictions, application, integrated technologies, modeling, regulatory issues, and technology results, status, cost, and commercial vendors (April 2002, 58 pages). View or download at http://www.gwrtac.org/pdf/frac_e_2002.pdf .

Multistage Combustion for Removal of NO_x from Incinerator Offgas - Noxidixer (DOE/EM-3181). DOE conducted a feasibility study comparing selective catalytic reduction (SCR) combined with selective catalytic oxidation (SCO) and multistage combustion (MSC). Two other technologies, wet scrubbing of NO_x combined with flameless thermal oxidation, and gas-phase corona discharge were eliminated as being developmental. This study was aimed toward upgrading the New Waste Calcining Facility (NWCF) originally planned to process the SBW. Although the process is different from the direct vitrification option now under consideration, the offgas from the NWCF would have been very similar, so the results were judged to be applicable (April 2002, 30 pages). View or download at <http://apps.em.doe.gov/ost/pubs/itsrs/itsr3181.pdf> .

Final Report: SERDP/ESTCP Expert Panel Workshop on

Research and Development Needs for Cleanup of Chlorinated Solvent Sites. This workshop was intended to develop a strategic plan to guide research and technology development in the next 5-10 years. The overall objective was to provide guidance on how these programs can best invest their limited research, development, and demonstration funds to improve DoD's ability to effectively address its CAH- contaminated sites. The workshop participants were asked to identify the major basic and applied research, development, and demonstration needs, the specific technical issues that must be addressed to meet regulatory and other stakeholder concerns, and the major gaps in our scientific understanding of CAH contamination and cleanup. The participants were asked to prioritize these research and development needs and identify those areas with the greatest promise to help DoD accomplish its goals (Spring 2002, 87 pages). View or download at http://www.serdp.org/news/other_events/2001/chlorsolv/ChlorSolvCleanup.pdf .

NEW Federal Remediation Technologies Roundtable World Wide Web Site. Member agencies of the Federal Remediation Technologies Roundtable have launched a newly redesigned web site. The new web site offers a more attractive, user-friendly Internet tool to provide information on the use of remediation and site characterization technologies to clean up hazardous waste contamination. It updates and expands on the technical content provided cooperatively by the federal agencies to advance the use of innovative technologies. View at <http://www.frtr.gov> .

Database Consolidation on CLU-IN. Direct access is now provided to 17 databases with information on topics ranging from drycleaner site profiles to online phytoremediation bibliographies. These databases are sorted by remediation and characterization, and can now be accessed directly from the homepage, at <http://clu-in.org> , thereby reducing user navigation time.

Conferences and Symposia

The Maine Department of Environmental Protection, EPA/ORD's SITE Program, U.S. Air Force and SteamTech Environmental Services are announcing a seminar and demonstration of the innovative steam enhanced remediation pilot test being conducted at the former Loring Air Force Base in Limestone, Maine, on September 10-11, 2002. There is no charge for participation in this Seminar. The Loring project is the first attempt to use steam injection to recover Dense Non Aqueous Phase Liquid (DNAPL) from fractured bedrock at this depth. The purpose of the demonstration is to determine if steam can heat the targeted fractured rock zone, if contaminants mobilize from this zone and if the injection and

extraction can be performed without spreading contamination. Additionally, mass reduction is the primary goal of this demonstration. If you are interested, contact Debbie Merrill at JETCC@Maine.rr.com or (207) 253-8020.

ITRC/RTDF Accelerated Bioremediation of Chlorinated Solvents, October 8-9, Charlottesville, VA. This training class is sponsored by the Interstate Technology and Regulatory Council (ITRC). This class is a logical follow-on to the highly acclaimed training series on "Natural Attenuation of Chlorinated Solvents in Groundwater." The new course examines the roles of site characterization, modeling, design, monitoring and regulatory interaction in applying in-situ engineered bioremediation. Lectures, case studies, hands-on exercises and structured discussion sessions are used to give students knowledge and information that can be put to use immediately. For additional information, see <http://www.itrcweb.org> or contact Paul Hadley (916)324-3823. Additional offering November 14-15, Oakland, CA.

Northeast FOCUS Ground Water Conference, October 3-4, Burlington, VT. This conference, sponsored by the National Ground Water Association, will advance the science surrounding tough issues like DNAPL remediation in fractured rock, MTBE, characterization of fractured rock sites, and much more. For agenda and registration information, see <http://www.ngwa.org/education/02-1003-5081.shtml> .

Biological Treatment of MTBE Contamination in Groundwater: Ex-situ and In-situ Challenges, October 17 San Jose. This conference, sponsored by the Ground Water Association of California, will showcase experts discussing recent reports of both ex-situ and in-situ MTBE bioremediation case studies. Speakers will focus on the use of molecular, isotopic and other innovative tools for evaluating the success of in-situ bioremediation in the field, and the program will provide information via a panel of speakers on the regulatory acceptance of bioremediation as a remedial action for MTBE. For more information, see <http://www.grac.org> .

Mark your calendars. NAPL Remediation Seminar, December 10-12, Chicago. EPA's Technology Innovation Office, in cooperation with EPA Region 5 and the Interstate Technology and Regulatory Council will present a technology transfer seminar on current experience and future directions in Non-Aqueous Phase Liquid (NAPL) Remediation. Speakers will include nationally-known technology researchers, federal and state regulators, and experienced vendors of remediation services. Basic scientific and engineering principles and case studies will be provided on: in situ thermal, in situ chemical oxidation and in situ surfactant/cosolvent

flooding. Information will also be provided on recent work in the application of bioremediation in NAPL source zones as either a stand-alone remedy or as a complement to more aggressive source removal technologies. Afternoon poster sessions will follow the day's presentations. The seminar will be of particular interest to regulators, responsible parties and consultants involved in the remediation of petroleum refineries, wood treaters, former manufactured gas plant sites, dry cleaners, and sites with chlorinated solvent contamination. More information to come in the next TechDirect

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